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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,904	01/24/2001	Lap-Wai Chow	B-3964 618029-8	4228

36716 7590 11/16/2006

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EXAMINER	
NGUYEN, JOSEPH H	
ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,904	CHOW ET AL.	
	Examiner	Art Unit	
	Joseph Nguyen	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20,23 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20,23 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

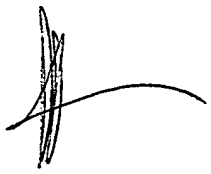
In view of the Appeal Brief filed on 08/16/2006, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takakura et al. (US 4,958,222) in view of Scott et al. (US 6,326,675 B1).

Regarding claims 1 and 5, Takakura et al. discloses in figure 6 a semiconductor device comprising (or a method for providing) a filed oxide layer 23 (column 3, line 11) disposed on a semiconductor substrate 21 (column 3, line 10) and within a contact region (the region that filed oxide 23 covers where metals 43, 48, 46 contact with one another); a metal plug contact 43 (column 4, lines 10-12) disposed within the contact region and above the field oxide layer 23, wherein the metal plug contact 43 contacts the filed oxide layer and wherein the field oxide layer 23 electrically isolates the metal plug contact from the contact region and a metal 48 (column 5, lines 13-14) connected to the metal plug contact. Takakura does not disclose the device is adapted to prevent reverse engineering. However, Scott et al. teaches it is desirable to prevent reverse engineering efforts (column 3, lines 26-27) by forming a structure having some areas undetectable using conventional microscopy (column 5, lines 7-8). On the other hand, the device as shown in figure 6 of Takakura et al. constitutes a structural similarity as that of the claimed device and Takakura et al. teaches it is desirable to increase the integration density (column 1, 12-15) as such forming smaller size components (i.e. metal contact) at a dimension undetectable by conventional microscopy is preferably expected to increase the density. Therefore, in view of the teaching of Scott et al., it would have been obvious at the time of the present invention to modify Takakura et al. by adapting the device to prevent reverse engineering effort.

Regarding claims 2 and 6, Takakura et al. discloses in figure 6 the semiconductor device is integrated circuit (column 2, line 20).

Regarding claims 3 and 7, Takakura et al. discloses the field oxide 23 is silicon oxide (column 3, lines 9-12).

Regarding claims 4 and 8, Takakura et al. discloses in figure 6 the integrate circuit comprises p-MOS 30 and n-MOS 26, which are complementary MOS.

Regarding claims 17 and 18, Takakura et al. discloses in figure 6 the filed oxide layer 23 has an uppermost side, the metal plug contact 43 being disposed on the uppermost side of the field oxide layer.

Regarding claims 9 and 13, Takakura et al. discloses in figure 6 a semiconductor device comprising (or a method for providing) a filed oxide layer 23 disposed on a semiconductor substrate 21 adjacent a contact region (region 26 where elements 33, 35 contact with each other); a metal plug contact 43 having a first surface and a second surface opposite the first surface, the metal plug contact disposed outside the contact region 26, wherein the second surface of the metal plug contact is disposed above the field oxide layer 23 and in contact with a dielectric material 23 wherein the metal plug contact is electrically isolated from the contact region; and a metal 48 connected to the first surface of the metal plug contact. Takakura does not disclose the device is adapted to prevent thwart reverse engineering. However, Scott et al. teaches it is desirable to prevent reverse engineering efforts (column 3, lines 26-27) by forming a structure having some areas undetectable using conventional microscopy (column 5, lines 7-8). In view of the teaching of Scott et al., it would have been obvious at the time of the

present invention to modify Takakura et al. by adapting the device to prevent reverse engineering effort.

Regarding claims 10 and 14, Takakura et al. discloses in figure 6 the semiconductor device is integrated circuit (column 2, line 20).

Regarding claims 11, 15, 23 and 24, Takakura et al. discloses the field oxide 23 is silicon oxide (column 3, lines 9-12), which is the dielectric material.

Regarding claims 12 and 16, Takakura et al. discloses in figure 6 the integrate circuit comprises p-MOS 30 and n-MOS 26, which are complementary MOS.

Regarding claims 19 and 20, Takakura et al. discloses in figure 6 the filed oxide layer 23 has an uppermost side, the metal plug contact 43 being disposed on the uppermost side of the field oxide layer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN
October 27, 2006.

KENNETH PARKER
SUPERVISORY PATENT EXAMINER